December 2021

Multi-asset Market Update

Equity market

Concepts of "narrative" and "common knowledge" have become ubiquitous in financial press, and this can be accepted as a natural evolution of the rise of behavioral finance in recent decades rather than connoting anything conspiratorial or nefarious. Essentially, market participants are trying to agree on what we all think we know—not merely about fundamentals (e.g., some firm's NTM cash flows) but also each other's reaction functions. This month, we rely on the results of a Wall Street survey of investors to represent the common knowledge of market participants and imply some particularly problematic challenges facing asset allocators on both a tactical and strategic basis.

From the survey, we highlight three of the most notable results:[1]

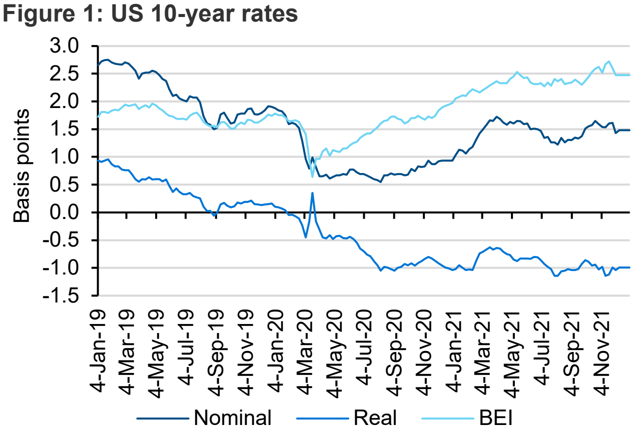
1. 33% of participants expect CPI to decline, and there has been almost no noticeable change in the percent of respondents who think inflation is transitory over the last few months
2. The most commonly cited tail risk is "Hawkish central banks"
3. A mere 6% expect a recession over the next 12 months

From the first point, it seems that investors' views on the future of inflation are firmly held and cherished beliefs. Jim Grant (of the renowned Grant's Interest Rate Observer) recently quipped that the most successful investors have a "cold, almost reptilian" ability to adapt their views to the environment in order to profit.[2] The complexity of proximal causes for recent inflation (e.g., labor supply, wage/price dynamics, supply chains, etc.) is so vast that no allocator should be able to confidently say whether inflation is transitory. This is not to say that one cannot hold an opinion about any of the economic machinations or behavioral responses that will influence future inflation, but rather that those opinions are best held weakly at this point.

Further, as a group, we agree that hawkish central banks are the biggest current risk. In the limited presentation of the survey results, we cannot identify the joint distribution of those who believe inflation is transitory versus not with those who cite central banks as the biggest risk. But we're not sure that is a necessary insight. We can interpret that inflation is the central economic issue and that central banks' response to it is key, and we can then assume that the market is positioned accordingly. The historically elevated levels of interest rate implied volatility seem to be a good indication this is true (i.e., more willingness to pay for optionality even after the rise in rates since inflation data really began to trend in Q3).

Yet, in the last point, near-term recession expectations remain extremely low. Again, we acknowledge that these views can be held collectively, on average and rationally, depending on undisclosed assumptions on different horizons. For example, if you believe inflation is transitory, a recession could be far off assuming the Fed doesn't respond in an inappropriately aggressive fashion. This scenario might be the closest to our house view central case, but our recession forecast indicators begin flashing red next year anyway because so many other economic conditions are forecast to become tight or late cycle (e.g., employment). On the other hand, the survey results' central case seems to be that inflation remains a problem and that central banks will address it aggressively without also choking off growth. Sure, central bank action amidst already high inflation and a late cycle environment doesn't guarantee a recession, but 6% strikes us as extremely optimistic.

Figure 1: US 10-year rates



Source: Bloomberg, data as of December 14, 2021.

This set of common knowledge is particularly challenging for allocators because even if your expectation is ultimately proven correct, the market may punish you regardless. Given that the central issue for all markets seems to be rates and inflation, the divergence of real and nominal rates creates a challenging set-up. Quite a bit of inflation is already priced. Fed action should raise real rates and, should the inflation market respond in kind (by repricing inflation lower), it could leave nominal rates in limbo. Risk markets might respond negatively to any tightening, given already high multiples and additional perceived risk to future growth (particularly given other late-cycle dynamics), although the perception of stable rates amidst Fed action against inflation otherwise seems quite favorable.

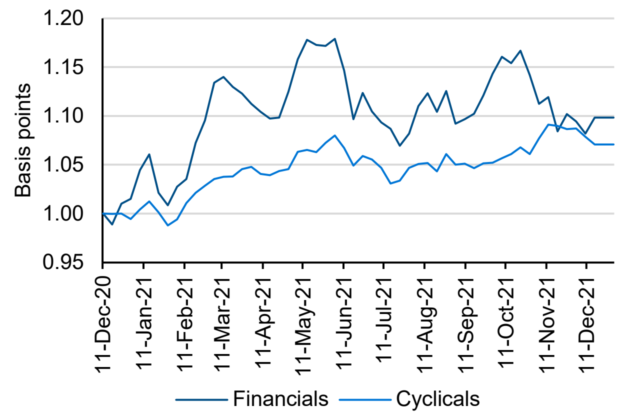
These challenges are difficult to address tactically because implied volatilities are historically elevated across most asset classes; risk markets continue to be handsomely rewarded, and we do not believe they are yet in bubble territory; and there has already been some rotation into more inflation-sensitive sectors which can just as easily accelerate as reverse. Strategically, asset allocation models generally rely on covariance matrices that utilize limited data and/or even intentionally overweight more recent data. Even a regime-based model will struggle to optimize for higher inflation and/or low or even lower rates. In other words, our models have never seen a set-up like this before (other than perhaps the late-1960s, if you happen to have such data), so how might they know whether this time is or isn't different?

Figure 2: S&P 500 price return by sector

Source: Bloomberg, data as of December 14, 2021.

Forced to make just one choice, we believe that holding long volatility or other highly convex exposure alongside your strategic allocation may ultimately be less expensive than relying on diversification's free lunch remaining free. Fortunately, though, we do not have to make such binary choices. Other dynamics in volatility markets make structured option portfolios potentially attractive relative to your objectives. For example, put spread collars price attractively for maintaining more upside exposure; certain call option structures may accumulate gains more quickly into when a plan would rebalance anyway; and calendar-based structures with rate options can create a low carry way to maintain optionality as the current inflation episode plays out. We outline more on each of these markets and, as always, are happy to discuss in more detail and with respect to your specific objectives.

Figure 3: Inflation sensitive sector performance vs. S&P 500



Source: Bloomberg, data as of December 14, 2021.

Equity volatility

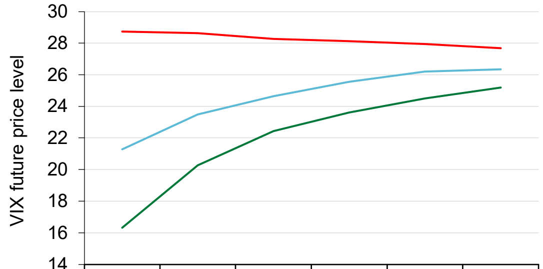
The S&P 500 is approximately unchanged since last month but has experienced a significant amount of realized volatility in the interim, which has shifted the volatility risk premium up further. Risk markets experienced a real jolt that began with the half-day trading session on "Black Friday" (that we saw cleverly dubbed "Red Friday," suggesting that the stock market was on sale). This rout was sustained for the week hence until the recent recovery last week, which the headlines attributed to the potential for COVID-19 Omicron cases to be milder than prior variants and for a possible bottoming in the Chinese economy.

Short dated realized volatility picked up with repeated +/- ~2% a day moves in spot, although even the reactive 10-day measure only peaked at an annualized 25%.[1] This failed to capture the intensity of how implied volatility richened during this time, however.

As pictured below, the VIX futures term structure inverted and, intraday, VIX spot crossed 35.[3] Such levels are often a point of transition, where markets will need to very quickly revert to calm or much larger shocks to risk assets may ensue. It would be fair to attribute this richening in premium as coincident with higher beta weakness in cyclical or higher risk favorites like ARKK and Bitcoin. Remnants of this event show in VIX futures having retreated only partially to prior levels despite the spot index having recovered most of its losses.

Our clients are especially busy this month, either executing or drafting plans for 2022. We are seeing a greater priority on maintaining downside protection, even if it hasn't paid off this year, and a greater willingness to spend premium. Happily, the afore-mentioned elevated implied levels help us deliver more favorable relative value structures that are less typical of rising markets. Although outright hedges are expensive, collars and spreads remain attractive.

Figure 4: US 10-year rates



	1st Month	2nd Month	3rd Month	4th Month	5th Month	6th Month
11/17/2021	16.3	20.3	22.4	23.6	24.5	25.2
12/3/2021	28.7	28.6	28.3	28.1	27.9	27.7
12/14/2021	21.3	23.5	24.6	25.5	26.2	26.4

Source: Bloomberg, data as of December 14, 2021.

Rates market

Figure 5: US rates environment

Index	12/13/2021	One month ago	Three months ago	One year ago
Fed Funds Rate	0.25	0.25	0.25	0.25
2y	0.63	0.51	0.21	0.12
5y	1.20	1.22	0.79	0.36
10y	1.42	1.56	1.28	0.89
30y	1.80	1.93	1.86	1.63

Source: Citi, data as of December 13, 2021.

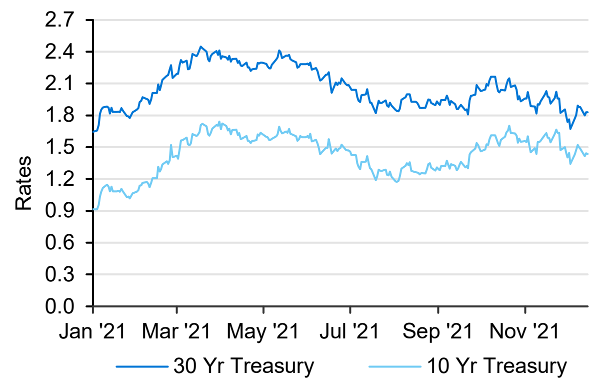
Front end rates climbed to new highs, while long end rates remained perplexingly rich over the past month as the yield curve continued to twist flatten. Inflation proving to be anything but inflationary has driven Fed rhetoric and front end rates while the back end has been a bit harder to pin down. The most common explanations being positioning and real money buying of duration. In mid-November, the 2-year Treasury rate was at 52 basis points while the 30 year was at 2.03, giving 2s30s a 151 basis point steepness.[1]

The week of Thanksgiving, Jerome Powell was officially nominated for a second term (dispelling the most discounted, but still non-zero, probability of a Brainard nomination). This pushed the front end to 58 basis points while the back end rallied to 1.96, thus flattening the curve 13 basis points in less than a week.[3] The Fed minutes came out the day before Thanksgiving, and while there were no major surprises, they still read as hawkish as there was a strong discussion around preserving options to hasten tapering and start hiking earlier than expected. The day after Thanksgiving saw the first news of the Omicron variant out of South Africa. This, coupled with the lightly staffed early close and illiquidity, saw rates plummet roughly 15 basis points across the curve.[3]

After having a weekend to digest the Omicron news (and seeing data that while it spread faster, the symptoms seemed less severe), the focus returned to inflation going into month end. On November 30, in a talk in front of the Senate Banking Committee, Chair Powell showed a hawkish pivot, stating that the word “transitory” should no longer be used to describe the persistent inflation. He also mentioned that the Fed would look to speed up tapering and potentially pull forward their rate hikes next year. The 2-year Treasury rate closed out the month at 57 basis points while the 30-year ended at 1.79, a 122 basis point 2s30s steepness, nearly 30 basis points flatter than 2 weeks prior.[3]

The November employment report proved to be a bit hard to interpret. The headline number was a miss, showing a +210k job growth, well short of the +550k expectation.[3] But the unemployment number dropped to 4.2% from 4.6%, while the labor force participation rate increased.[3] While the front end stayed roughly unchanged, the long end rallied to a new local low of 1.67.

Figure 6: US Treasury rates



Source: Bloomberg, data as of December 14, 2021.

The 30-year Treasury rate started the year at 1.64 and hadn’t been that low since January 4, getting as high as 2.45 in March.[3] The 2s30s curve ended the first week of December at 108 basis points.[3] Rates sold off the following week as the impact of Omicron seemed to be less severe than previously believed and the 2-year Treasury rate hit a new high of 69 basis points.[3]

Friday’s CPI number came in right as expected with the headline inflation showing 6.8% year-over-year growth and core at 4.8%. And while these were the highest numbers in 40 and 30 years, respectively, the front end rallied a few basis points. There were fears that inflation could rise above 7%. Some banks are now forecasting inflation to peak in March or April of 2022 before receding as the base effects roll off. All eyes will be on the Fed this week for their thoughts on inflation, tapering, and rate hikes.

Rates volatility

Fueled by new highs in front end rates and incredibly high delivered volatility in the back end, gamma in rate volatility hit new highs on the year in December. Immediately after, they pulled back ahead of the FOMC meeting as options implied volatility continued to be a rollercoaster. Around

Figure 7: Rate volatility

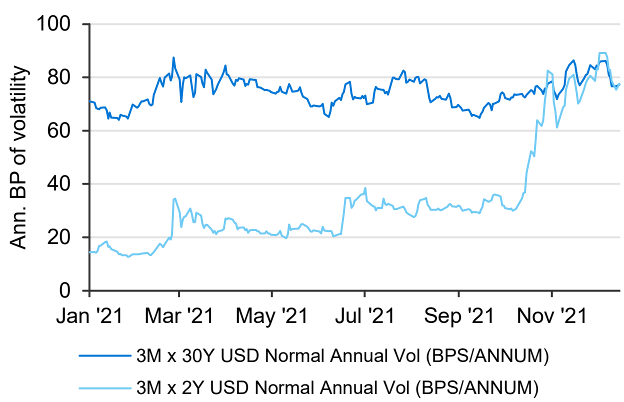
Exp/Tail	1Y	Change	2Y	Change	5Y	Change	10Y	Change	30Y	Change
1M	59	9.6	80.2	1.8	80.2	-5.8	80.2	-4.9	79.6	-7.9
3M	62.4	7.1	77.7	-3.4	79	-7.6	79.2	-6.4	77.5	-9.2
6M	71.2	6	78.1	-6.4	79.7	-5	78.7	-5.3	76.2	-7.7
1Y	80.1	1.2	80.4	-5.5	79.5	-3.7	76.5	-4.9	73.1	-6.4
2Y	81.5	-6.3	80.9	-6.2	78.9	-2.6	75.1	-3.7	70.3	-4
3Y	81.3	-5.7	80.1	-5.4	78.2	-1.6	74.1	-2.7	68.2	-2.5
4Y	79.6	-5.3	79.2	-4.2	77.3	-1.7	73	-1.9	66.1	-2.8
5Y	78.8	-3.5	78	-3	75.6	-1.5	71.6	-1.5	63.3	-3.2
7Y	76.2	-1.1	74.5	-2.4	72	-2	68.6	-1.2	60.2	-2.3
10Y	70.7	-0.4	69.5	-1.3	67.1	-1	64	-0.5	55.9	-1.6

Source: Citi, data as of December 14, 2021.

Thanksgiving, gamma was back up to the highs of the year as volatility across the surface was well bid after the Powell announcement and then went up even higher with the massive rate movements around the Omicron news out of South Africa.

Short tails continued to outperform as gamma was up 6-10abpv in shorter tails and up 1-3abpbv in 30-year tails in the first week of December. One month realized volatility the 2-year swap rate was delivering 5bps/day, 10-year swap 7.3 bps/day and the 30-year has delivered just under 7bps/day.[3] Outside of March 2020, these are multi-year highs and reflected in option pricing. Even as rates in 5-year moved higher, high strike payers remain in high demand, to the point now that one could enter a 3-year forward 5s30s steepener at -20 basis points for costless while the forward curve is completely flat.[3]

Figure 8: Volatility spreads

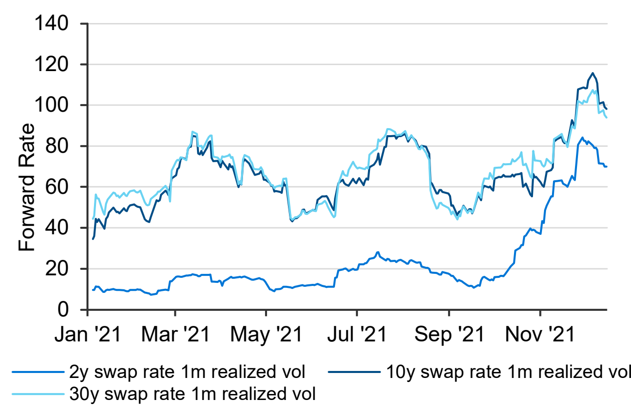


Source: Citi, data as of December 14, 2021.

These new highs in rate volatility proved short lived, however, as rate volatility plummeted after the CPI print and lead up into the FOMC meeting. The biggest drops came on Wednesday as the curve steepened (volatility on 2-year and 5-year tails was sold as it became clear the long end was leading the move higher) and then Friday after the CPI print.

Normally, volatility would not drop so precipitously ahead of such a highly anticipated FOMC meeting (expectations around statement phrasing, tapering pace and future hike pace), but the prevailing sentiment among dealers is that the market is much more in line with Fed expectations. Bill Dudley had an op-ed in Bloomberg predicting that the Fed will wrap up tapering by the end of March to set the stage for 3 rate hikes in 2022, consistent with what the market has priced in.[3] But he also predicted the 2.5 terminal rate would get pulled forward to 2024. This is a fairly large disconnect from market pricing, which currently has the 3y1y at 1.6%, so it will be interesting to see how the Fed projections affect that intermediate volatility. A prevailing trade of the past few weeks has been selling 3m10y vs buying 4m10y (selling Feb expiries to buy March expiries), so vol market is certainly pricing in expectations for a very eventful March FOMC meeting, particularly given the growing consensus around the Fed wrapping up tapering by then.

Figure 9: Trailing 1-month realized volatility



Source: Bloomberg, data as of December 15, 2021.

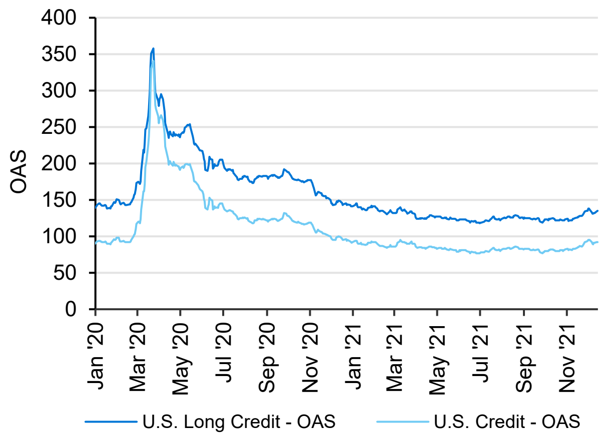
Longer dated vega was dragged up and down in sympathy with gamma for the most part. The expiry surface on 30-year tails became more inverted than average, leading to a run of calendar spread and forward volatility trades. Overall vega has drifted lower - despite the flattening of the long end of the curve – as callable Formosa issuance tends to pick up in January each year.

Credit market

Credit spreads saw significant widening to end November but have been range-bound over the first half of December.

The recent pressure on spreads is primarily due to the combination of a hawkish pivot from the Federal Reserve and the emergence of the Omicron variant. On a sector-by-sector basis, TMT reversed course from the beginning of last month and has since outperformed the rest of the market. Treasury yields have also put pressure on high-quality spreads, as they have recently rallied, resulting in the ratio of A-BBB spreads at the long end compressing to an all-time low. As of December 14th, the Bloomberg US Long Credit Index OAS currently stands at 135 basis points, flat on the month and 6 basis points tighter on the year.[3]

Figure 10: US credit spreads



Source: Bloomberg, data as of December 15, 2021.

Real-time GDP trackers are trending higher implying that the economy has rebounded throughout the fourth quarter. With that said, we expect the Omicron variant to modestly subtract from growth as we move into 2022. We are also closely watching impacts to the supply chain, as most expect the Omicron variant to pose additional risks in this space.

Although there are apparent risks, both systematic and unsystematic, the street consensus is that there is a strong likelihood central banks throughout developed markets will hike rates within the next year. Turning to the US, the Fed has signaled its intention to ramp up the pace of tapering, possibly as soon as the December FOMC meeting. Additionally, high inflation levels and improved economic conditions may force the Fed to accelerate the pace of hikes over the next two years.

In the fixed income space especially, investors have expressed concern given the potential for central bank action as well as heightened inflation. Demand has softened over the past few weeks, as Asia buying and retail flows into mutual funds have been weak. With that said, supply has surprised to the upside. Companies with financing needs have come to market to take advantage of the low Treasury yields. Consequently, new deals have come with concessions to attract demand. Month-to-date, we’ve seen $60 billion come to market, bringing total investment grade supply on the year to $1,389 billion.

Corporate earnings in the third quarter has continued the trend of strong revenue and earnings growth Earnings growth expectations for 2022 are looking favorable, albeit at more modest rates relative to 2021. While earnings growth should be sufficient to continue to suppress leverage over the next year, share buybacks, M&A and capex are all likely to increase. Although there are still a variety of risks in the market, we are moving from moderately bearish to slightly bearish on the US Credit market going into the new year. ■

1. Bank of America Survey; https://rsch.baml.com/access?q=aHIXzTb61V8
2. Hidden Forces Podcast; https://hiddenforces.io/; Episode 221
3. Bloomberg

LGIM America